

## ***Focus . . . Heat Surveillance Summary - 1998***

Summer 1998 was hot in Missouri as it was across the nation. The life-threatening heat wave that traveled through many states across the nation prompted the Centers for Disease Control and Prevention to issue a media advisory containing tips for managing heat on July 22, 1998. The Department of Health issued one statewide Hot Weather Health Advisory and one statewide Hot Weather Health Warning in 1998. See the criteria used when issuing a Hot Weather Health Advisory or Warning at the end of this article.

The statewide Hot Weather Health Advisory was issued on June 25, 1998 when heat indexes reached 106° in St. Louis, Kansas City and Cape Girardeau, 104° in Columbia and 102° in Springfield. The peak of high heat indexes from June 23 through June 29 accounted for 35 percent (163) of the heat-related illnesses reported in 1998. No heat-related deaths occurred during this time period. However, four heat-related deaths occurred in the St. Louis metropolitan area between June 30 and July 2. See Figure 1.

The statewide Hot Weather Health Warning was issued on July 20, 1998 after heat indexes reached 112° in St. Louis, 110° in Kansas City, 108° in Cape Girardeau, 106° in Columbia and 101° in Springfield on July 19. The peak of high heat indexes from July 18 through July 22 accounted for 30 percent (142) of the heat-related illnesses reported in 1998. Four heat-related deaths occurred during this time period. See Figure 1.

In 1997, one statewide Hot Weather Health Advisory was issued on July 25. A peak of high heat indexes from July 12 through July 28 accounted for 76 percent (176) of the 232 heat-related illnesses reported in 1997.

In 1998, 470 heat-related illnesses were reported. This is twice the number of heat-related illnesses reported in 1996 or 1997, but still much lower than the 819 heat-related illnesses reported in 1995. See Figure 2.

In 1998, 12 heat-related deaths were recorded. This is three more deaths than recorded in 1997, but considerably lower than the 57 heat-related deaths recorded in 1995. See Figure 3. Considering the high number of heat-related illnesses reported in 1998, one would expect to have seen more heat-related deaths. This lower number of deaths may reflect the effectiveness of public health efforts to educate the public to recognize heat-related illness and seek medical treatment promptly.

Eight (67 percent) of the heat-related deaths in Missouri in 1998 were in individuals aged 60 or older. The elderly and chronically ill are more vulnerable to heat because they may perspire less and are more likely to have health problems requiring medications that impair the body's natural defenses to adjust to heat.

In 1998, one death in Missouri was a 4-year-old girl who disappeared from a Bible school/day care center. The child was later discovered locked in a car where she may have been for as long as six hours. Infants and children up to 4 years of age are sensitive to the effects of high temperatures and rely on others to regulate their environment and provide adequate liquids. Infants and children should never be left unattended in a parked car or other hot environment.

The St. Louis metropolitan area accounted for a large proportion of the heat-related illnesses and deaths in 1998; 291 (62 percent) of the heat-related illnesses and five (42 percent) of the heat-related deaths. Although the number of heat-related illnesses reported from St. Louis in 1998 was more than twice the number reported in 1997, the number of heat-related deaths increased by only one. We attribute this to the diligent efforts of St. Louis Operation Weather Survival. This coordinated effort between public health agencies, voluntary organizations, the media and others has been very effective in reducing excess mortality due to stressful weather conditions in the St. Louis area. In 1998, St. Louis Operation Weather Survival issued three Hot Weather Health Advisories and two Hot Weather Health Warnings.

Recognizing the importance of preventing heat-related illnesses, the American Medical Association adopted the following policies<sup>1</sup> at their 1997 annual meeting:

- Physicians should identify patients at risk for extreme heat-related illness such as the elderly, children, individuals with physical or mental disabilities, alcoholics, the chronically ill, and the socially isolated. Patients, family members, friends, and caretakers should be counseled about prevention strategies to avoid such illness. Physicians should provide patients at risk with information about cooling centers and encourage their use during heat emergencies.
- The American Medical Association encourages patients at risk for heat-related illness to consider wearing appropriate medical identification.
- The American Medical Association supports efforts to develop and disseminate educational materials on the prevention and treatment of heat-related illnesses and encourages state, county and specialty medical societies to work with public and mental health agencies and others in developing and implementing community emergency plans for prevention of heat-related morbidity and mortality.

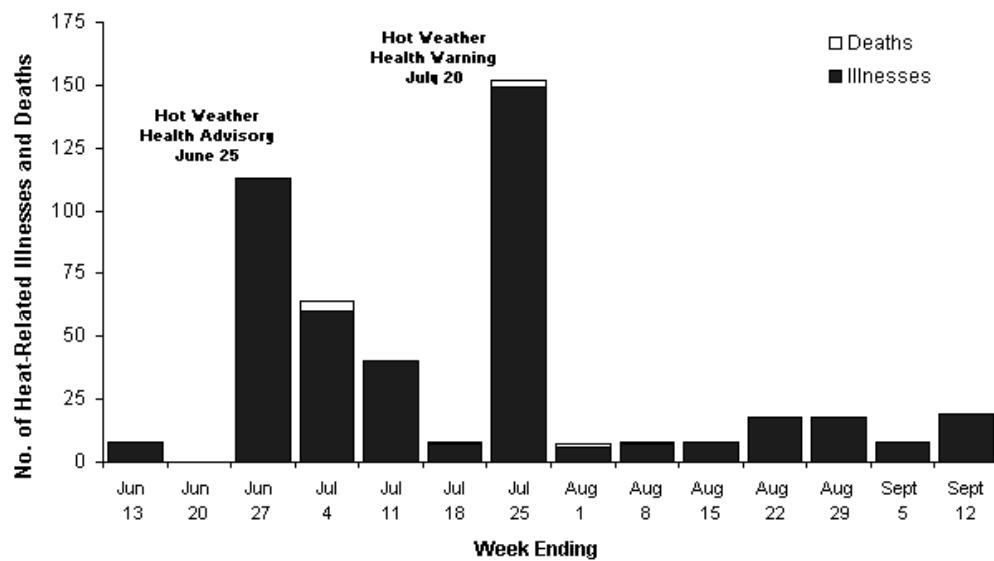
Further information on prevention of heat-related illness and past surveillance data for Missouri can be obtained through the Department of Health Home Page at <http://www.health.state.mo.us/ColdAndHeat/CAndH.html> or by calling the Office of Epidemiology at (573) 751-6128.

### Reference:

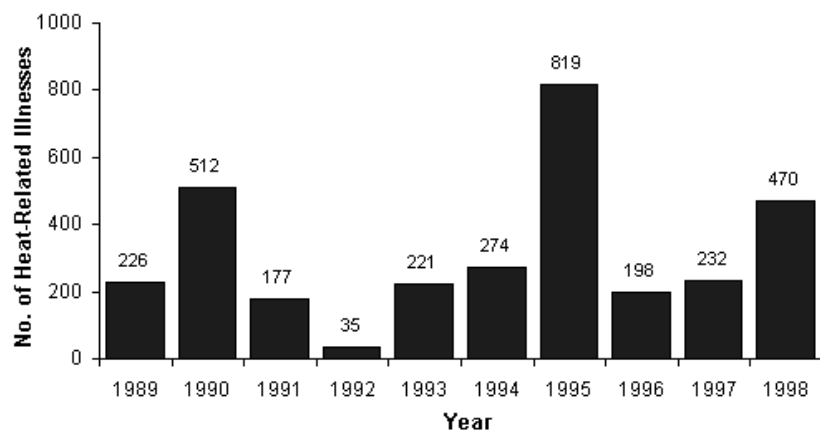
1. Blum LN, Bresolin LB, Williams MA. From the AMA Council on Scientific Affairs. Heat-Related Illness During Extreme Weather Emergencies. JAMA 1998; 279(19):1514.

**Figure 1**

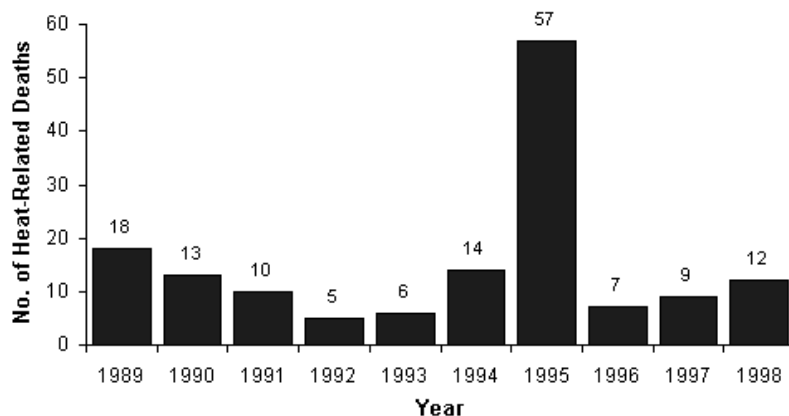
**Reported Heat-Related Illnesses and Recorded Heat-Related Deaths by Week of Occurrence, Missouri, Summer 1998**



**Figure 2**  
**Reported Heat-Related Illnesses by Year, Missouri, 1989-98**



**Figure 3**  
**Recorded Heat-Related Deaths by Year, Missouri, 1989-98**



### Provisional Vital Statistics for January 1999

**Live births** decreased in January as 5,205 Missouri babies were born compared with 6,134 one year earlier.

Cumulative births for the 12 months ending with January increased by 1.6 percent from 73,573 to 74,723.

**Deaths** decreased in January as 4,302 Missourians died compared with 5,252 in January 1998. The provisional 1998 death total of 54,800 represents a Missouri record.

The **natural increase** in January was 903 (5,205 births minus 4,302 deaths). The provisional 1998 natural increase of 20,700 represents the first year over 20,000 since 1993.

**Marriages** increased in January, but decreased for 1998, as the provisional count of 43,400 would be the lowest marriage total since 1966.

**Dissolutions of marriage** decreased in January as 1,938 Missouri couples divorced. Cumulative totals for the 12 months ending with January shows little change in the last four years.

**Infant deaths** decreased in January, and the rate decreased slightly to 7.7 per 1,000 live births for the 12 months ending with January.

PROVISIONAL RESIDENT VITAL STATISTICS FOR THE STATE OF MISSOURI													
January					12 months ending with January								
Item	Number		Rate		Number			Rate				Provisional 1999	
	1998	1999	1998	1999	1997	1998	1999	1996	1997	1998	1999	Number	Rate
Live Births	6,134	5,205	14.2	11.2	72,722	73,573	74,723	13.8	13.5	13.6	13.7	75,500	13.9
Deaths	5,252	4,302	12.2	9.2	54,088	54,366	52,429	11.7	10.1	10.0	9.6	54,800	10.1
Natural increase	882	903	2.0	1.9	18,634	19,207	22,294	3.6	3.5	3.5	4.1	20,700	3.8
Marriages	2,379	2,816	5.5	6.0	44,628	44,308	44,232	8.4	8.3	8.2	8.1	43,400	8.0
Dissolutions	2,181	1,938	5.0	4.2	25,448	25,898	25,556	4.8	4.7	4.8	4.7	25,200	4.6
Infant deaths	57	39	9.3	7.5	578	574	579	7.3	7.9	7.8	7.7	570	7.5
Population base (in thousands)	..	...	5,408	5,439	...	...	...	5,328	5,368	5,411	5,442	...	5,439

\*Rates for live births, deaths, natural increase, marriages and dissolutions are computed on the number per 1000 estimated population. The infant death rate is based on the number of infant deaths per 1000 live births. Rates are adjusted to account for varying lengths of monthly reporting periods.

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